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Introduction

Chemical contamination of the human environment and environmental radiation and noise did not originate at any particular time. Natural processes have been generating noise, heat, and chemical contaminants throughout most of the history of the earth. Some natural waters that are remote from human activities have levels of dissolved chemicals and radionuclides that make them unsafe by today's standards, and the air above swamps and near geothermal springs is contaminated by sulfur gases. There have been some poisonings of humans and grazing animals by natural chemical toxicants in the fruits and foliage they consumed.

Most current problems of chemical contamination, however, arise from anthropogenic sources, i.e., those attributable either directly or indirectly to human activity. In shaping the environment to our needs and convenience, we have used the earth's resources to feed, clothe, and heat us, to power our machines, and to produce material goods. Our ability to mold our environment has enabled us to greatly increase our numbers and improve our standard of living. But in our often careless use of natural resources, we have created contamination. Although the term contamination is often used interchangeably with "pollution," the latter is better defined as contamination to a degree that renders some resource unfit for its desired use.

When early humans discovered how to control and use fire, they must have found that one of its undesirable side effects was exposure to its smoke. When